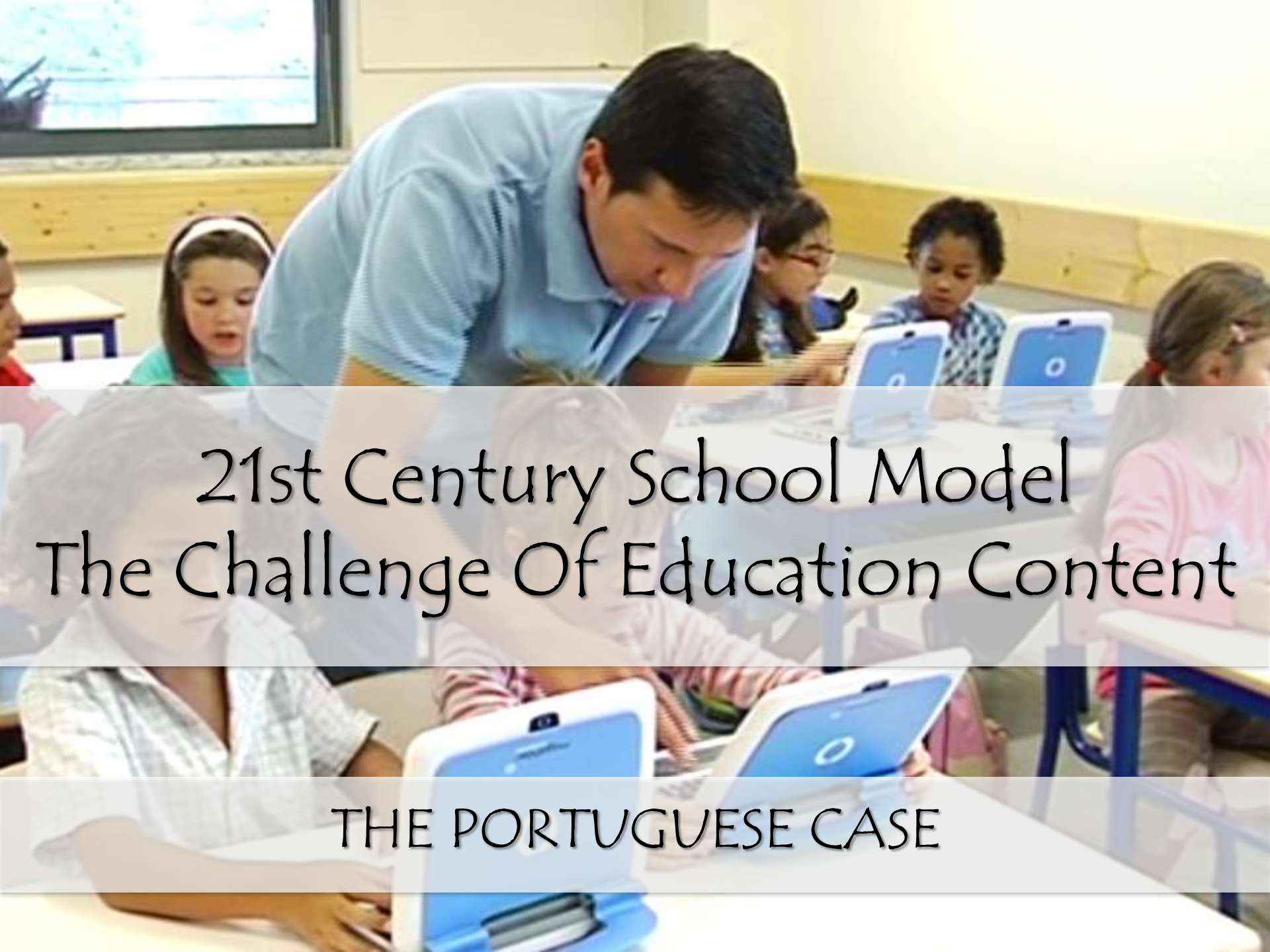


21st Century School Model
The Challenge Of Education Content

THE PORTUGUESE CASE

Fundamental questions with a consensual response

Which countries will be the most advanced and better for living in the future?

→ The ones that will have the most entrepreneur, innovative and qualified citizens.

Which is the greatest ambition of any country's government and people?

→ Walk towards the top regarding socio-economic development.

What should be the priority for a country?

→ To invest in learning and education.

1st STEP
(Vision)

There is a lot to be urgently done in teaching and learning to become a TOP country

- Identify the consensual vision
- Set it's ambition
- Established an action plan for a new learning ecosystem implementation (all over the Country - 1,4 million students 140 K teachers)

2nd STEP (Implementation)

e escola — plano tecnológico educação

Concept

Offer students laptops at very low prices (or even for free) to very low incoming families.

Goals

To massify schools adoption of:

- Laptops;
- Interactive boards;
- Digital contents.

To introduce, in most part of the cases, the household first computer through children.

2nd STEP (Implementation)

e escola — plano tecnológico educação

1. Technology	Technological Kit Computers, video projectors and interactive boards	Broad band internet	School Local Area Networks	School security
2. Contents	School Learning Platform	Digital contents integrated in the curricula – e.books	Free digital contents	
3. Capabilities	ICT Learning and Certification	ICT Academies		
4. School Management	School, class and students management			

2nd STEP
(Implementation)

Partnership between the Portuguese Government and the private sector

e escola

Public Partners

MOPTC

Ministério da Educação

Industry Partners

Caixa Mágica software

inforlandia

Private Partners

optimus

tmn

vodafone

ZON

Microsoft

intel

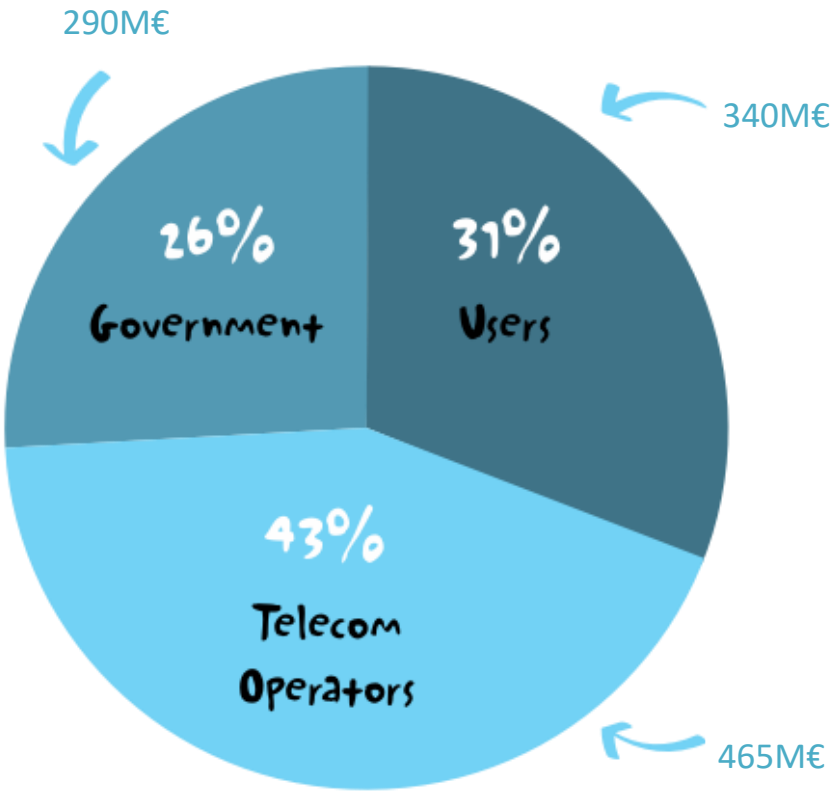
2nd STEP
(Implementation)

Total investment in e.escola and PTE

e.escola — €1.1B

plano tecnológico educação — 400 M€

Fully financed by the government



2nd STEP
(Conclusions)

Important achievements

e escola

plano tecnológico
educação

The largest broadband network between Schools

The largest one shot implementation project of:

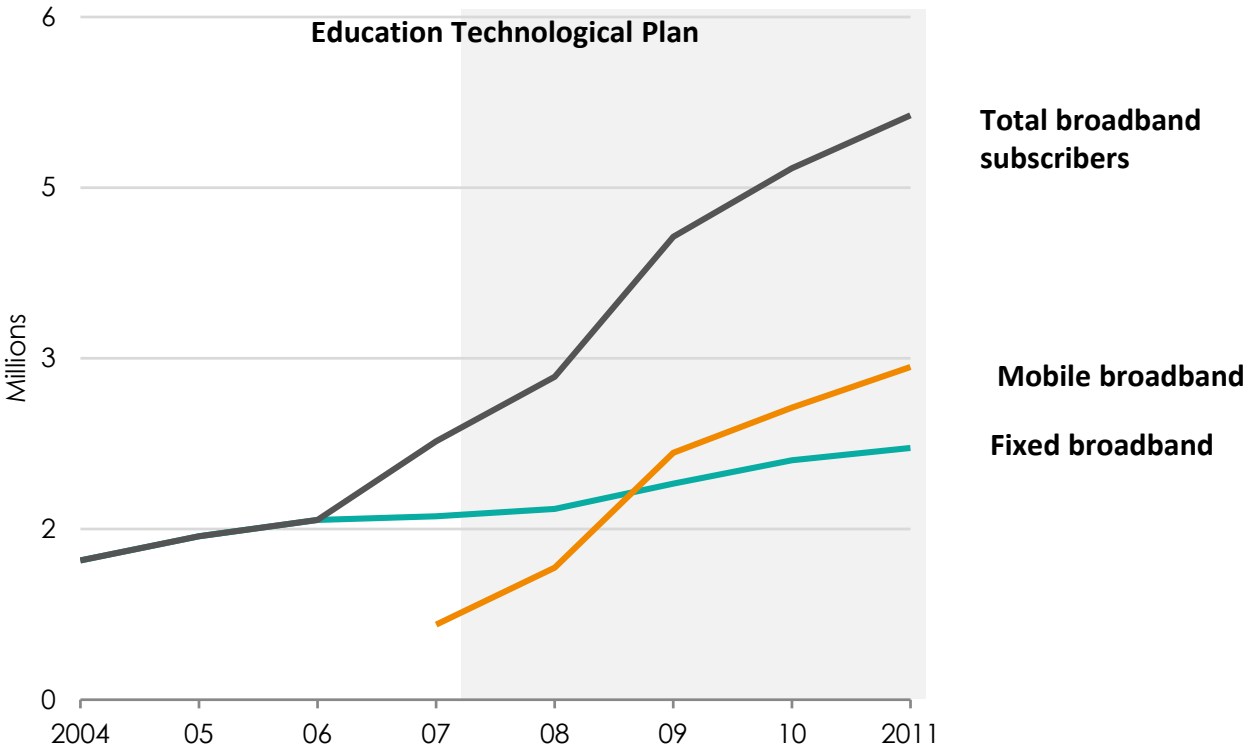
- One computer per child
- Interactive boards
- Digital contents
- Security and management systems

2nd STEP
(Implementation)

Total investment in e.escola and PTE

PTE changed the information society in Portugal

Number of broadband subscribers in Portugal 2004-2011



Source: Anacom.

2nd STEP
(Conclusions)

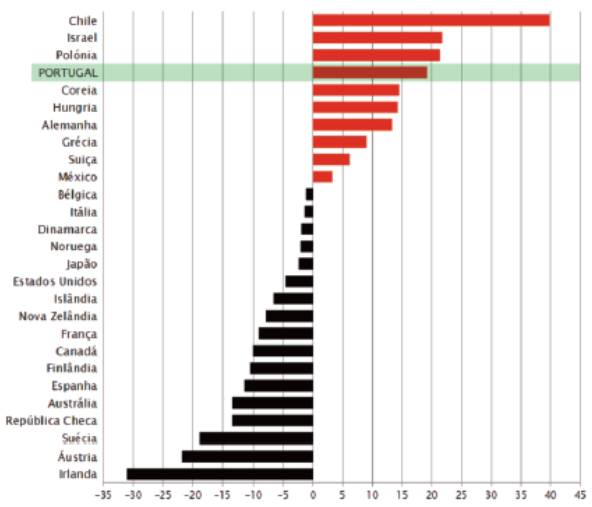
PISA 2009 Results: Students

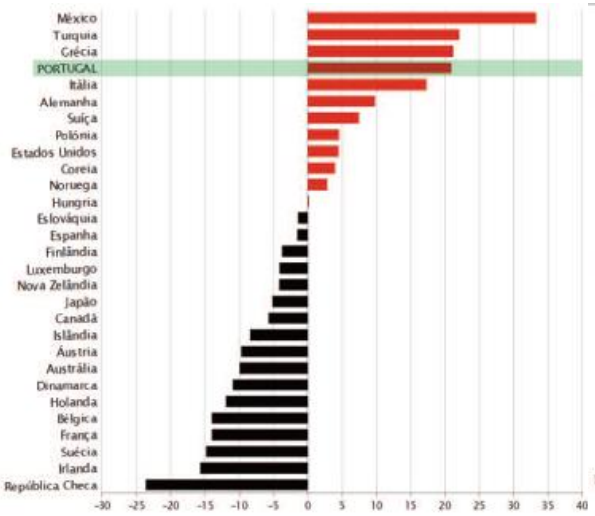
escola

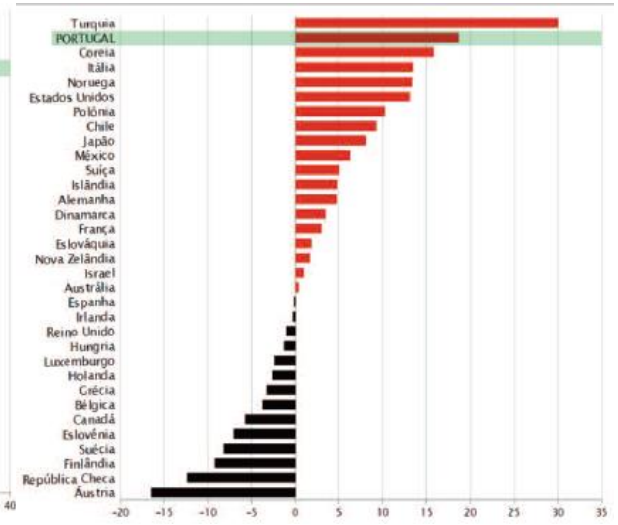
plano tecnológico
educação

Improvments in Portugueses students

Reading	Maths	Science







- Portugal (in 2006/ 2009) is the OECD country which has the best improvments in Reading, Maths and Science;

- For the first time, portuguese students evaluation is in the first OECD group, among countries like United Kingdom, Germany, France, Sweden and Hungary.

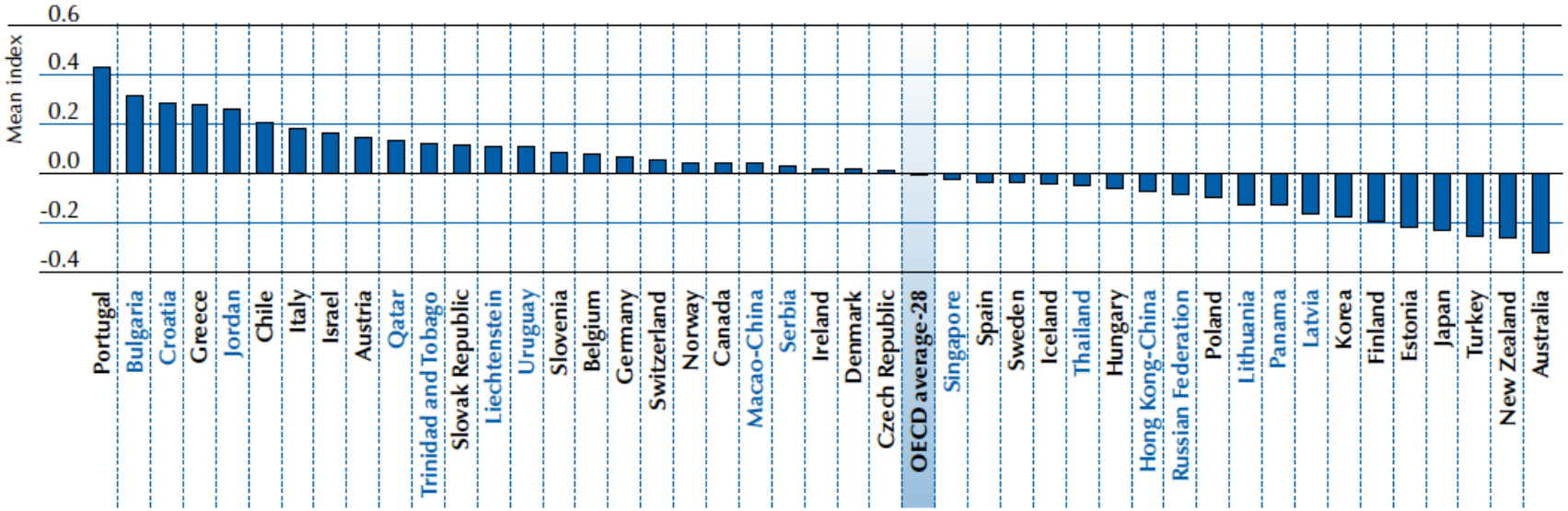
2nd STEP
(Conclusions)

PISA 2009 Results: Students

escola

plano tecnológico
educação

Index of attitudes towards computers, by gender and socio-economic background



Countries are ranked in descending order of the mean index of all students.

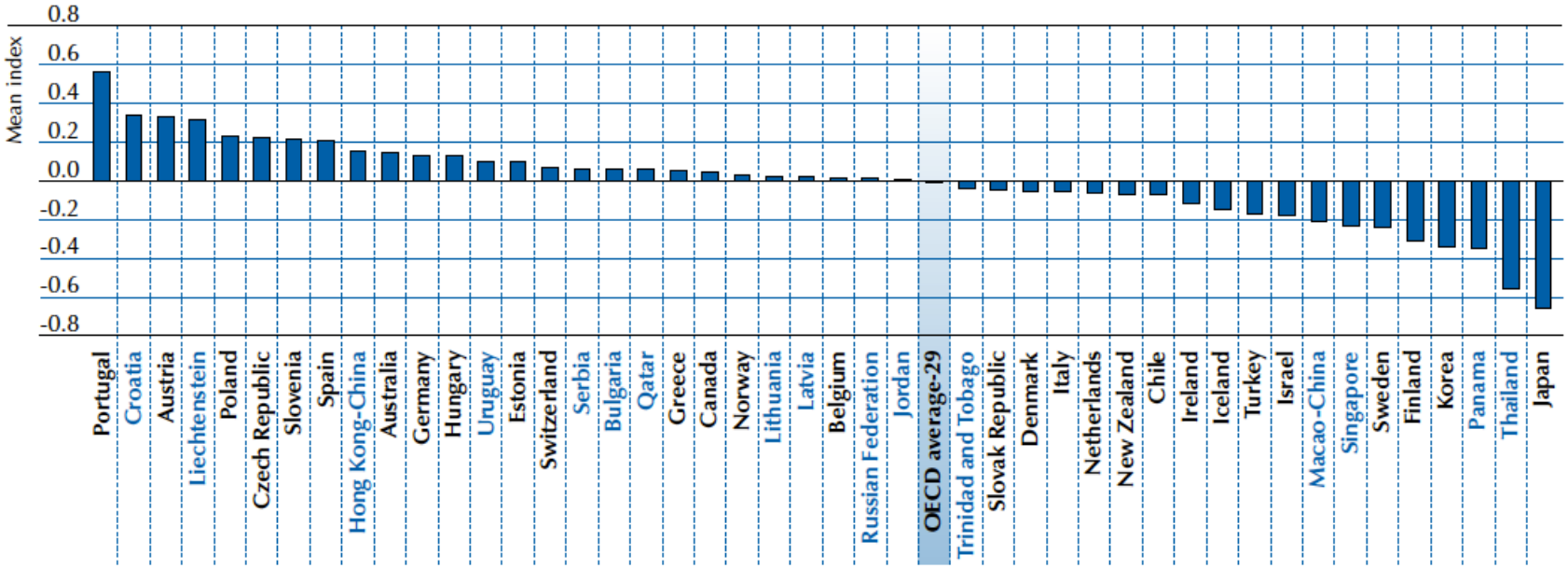
2nd STEP
(Conclusions)

PISA 2009 Results: Students

e escola

plano tecnológico
educação

Index of self-confidence in ICT high-level tasks, by gender and socio-economic background



Countries are ranked in descending order of the mean index of all students.

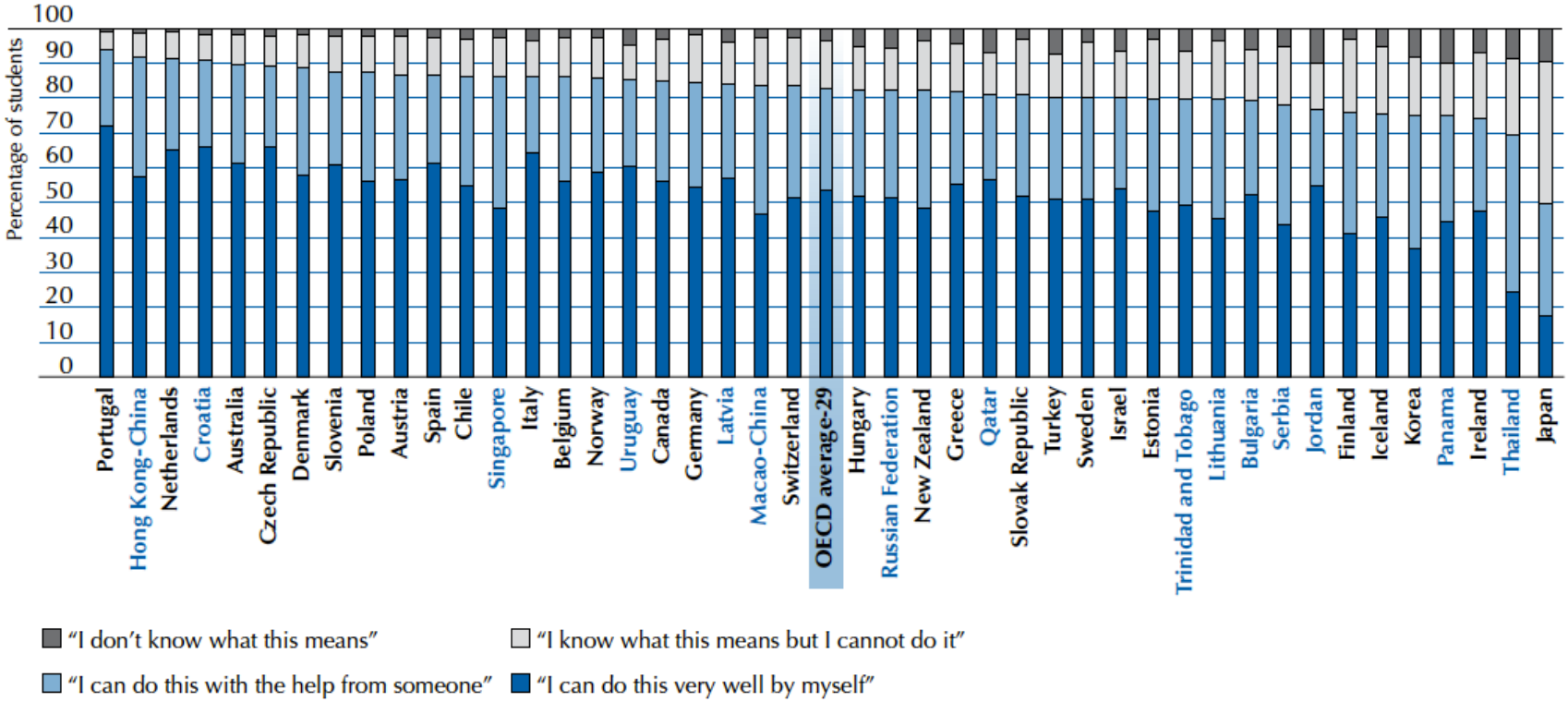
2nd STEP
(Conclusions)

PISA 2009 Results: Students

e escola

plano tecnológico
educação

Percentage of students who reported being able to create a multi-media presentation



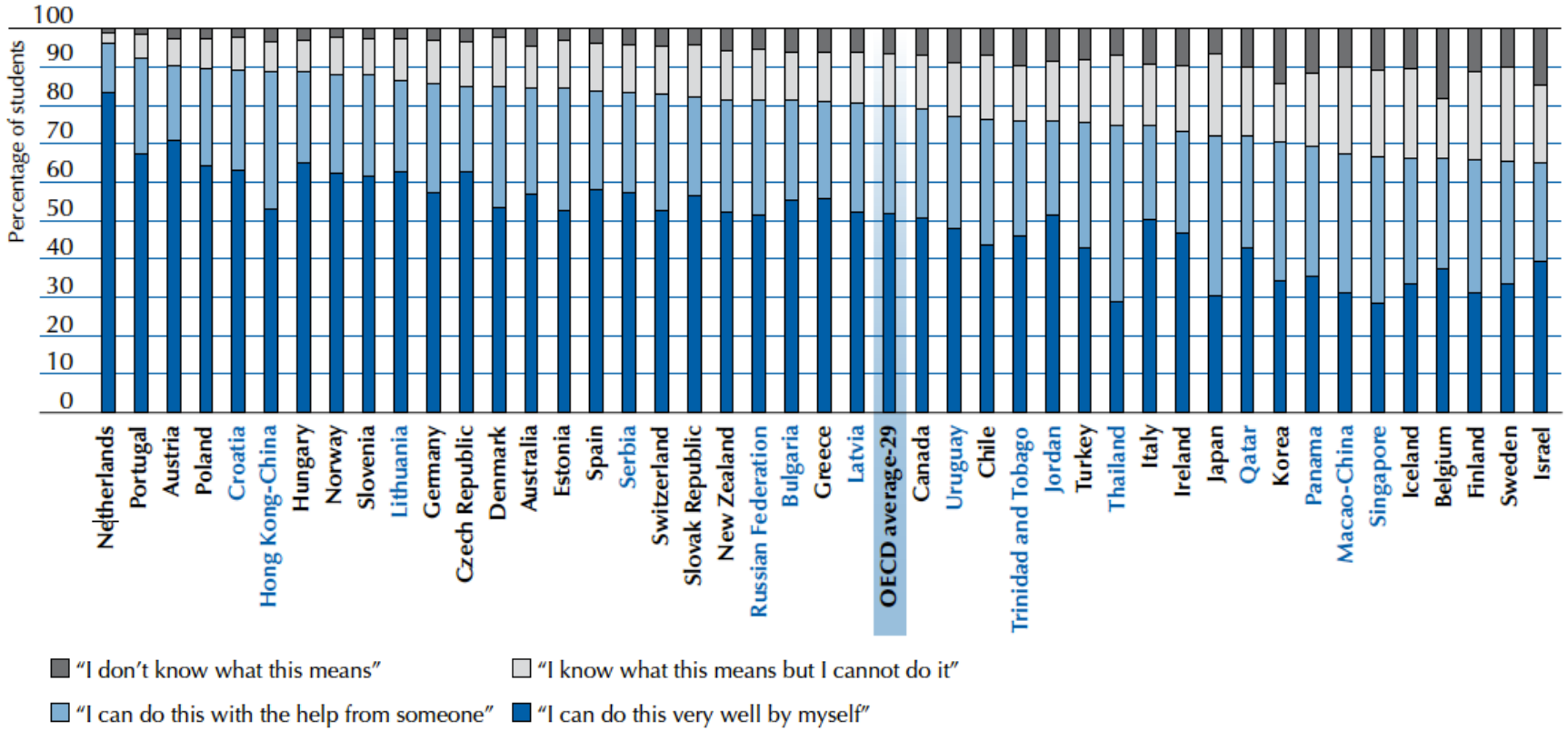
2nd STEP
(Conclusions)

PISA 2009 Results: Students

escola

plano tecnológico
educação

Percentage of students who reported being able to use a spreadsheet to plot a graph

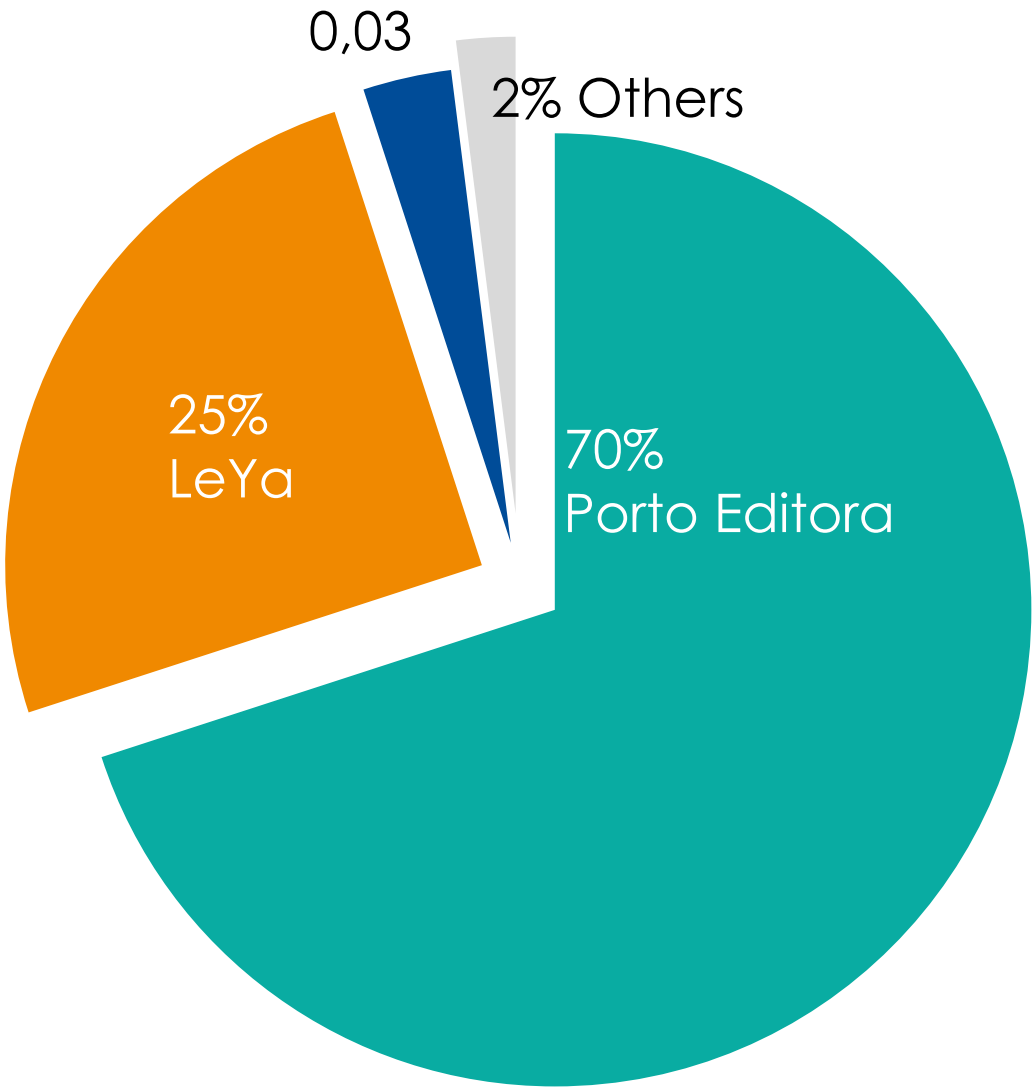


May 2017, Portuguese Parliament approves a law for the dematerialization of textbooks and other school materials

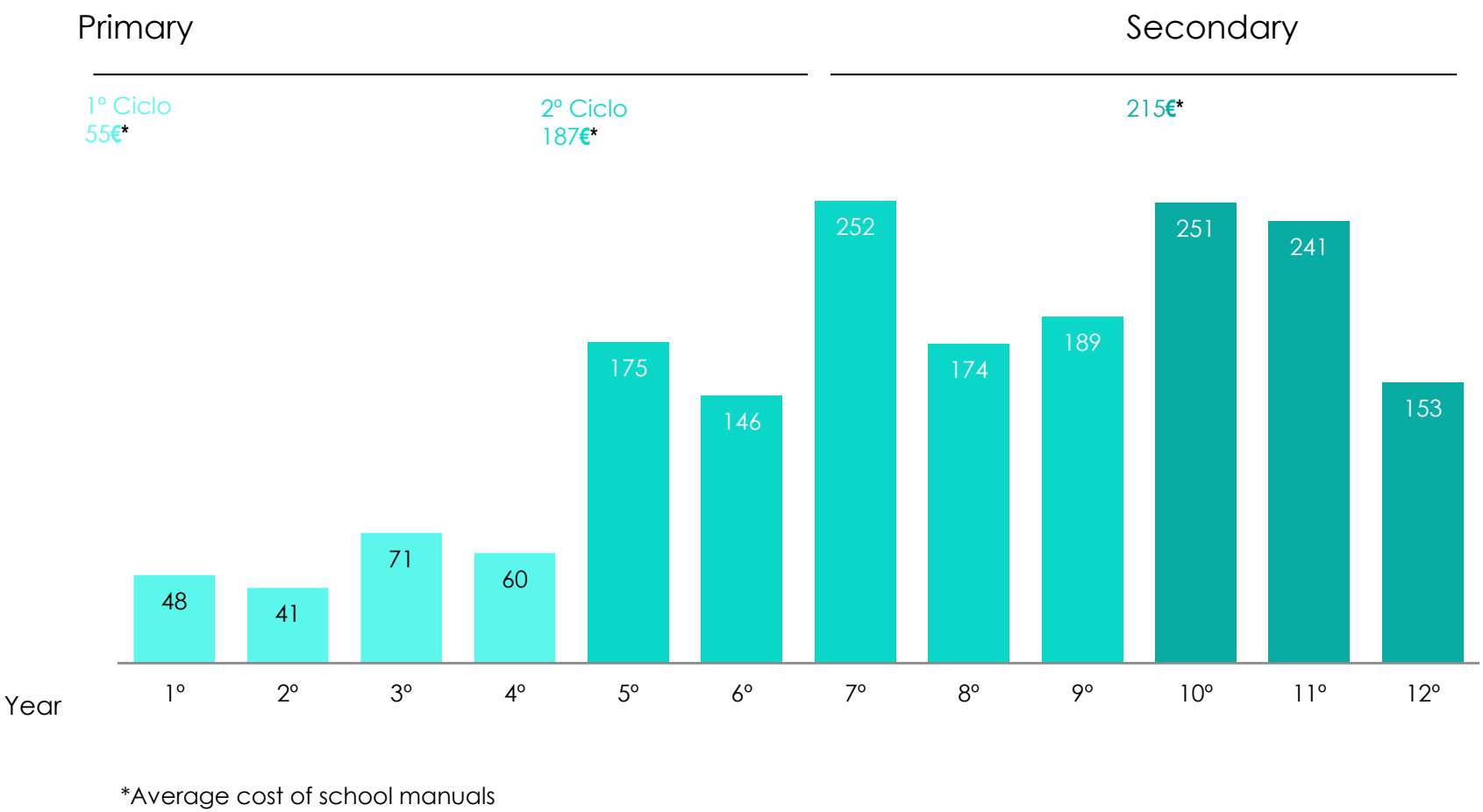
The two main portuguese school publishers offer digital platforms that are complementary to school textbooks.

escola virtual

Portuguese Books Market

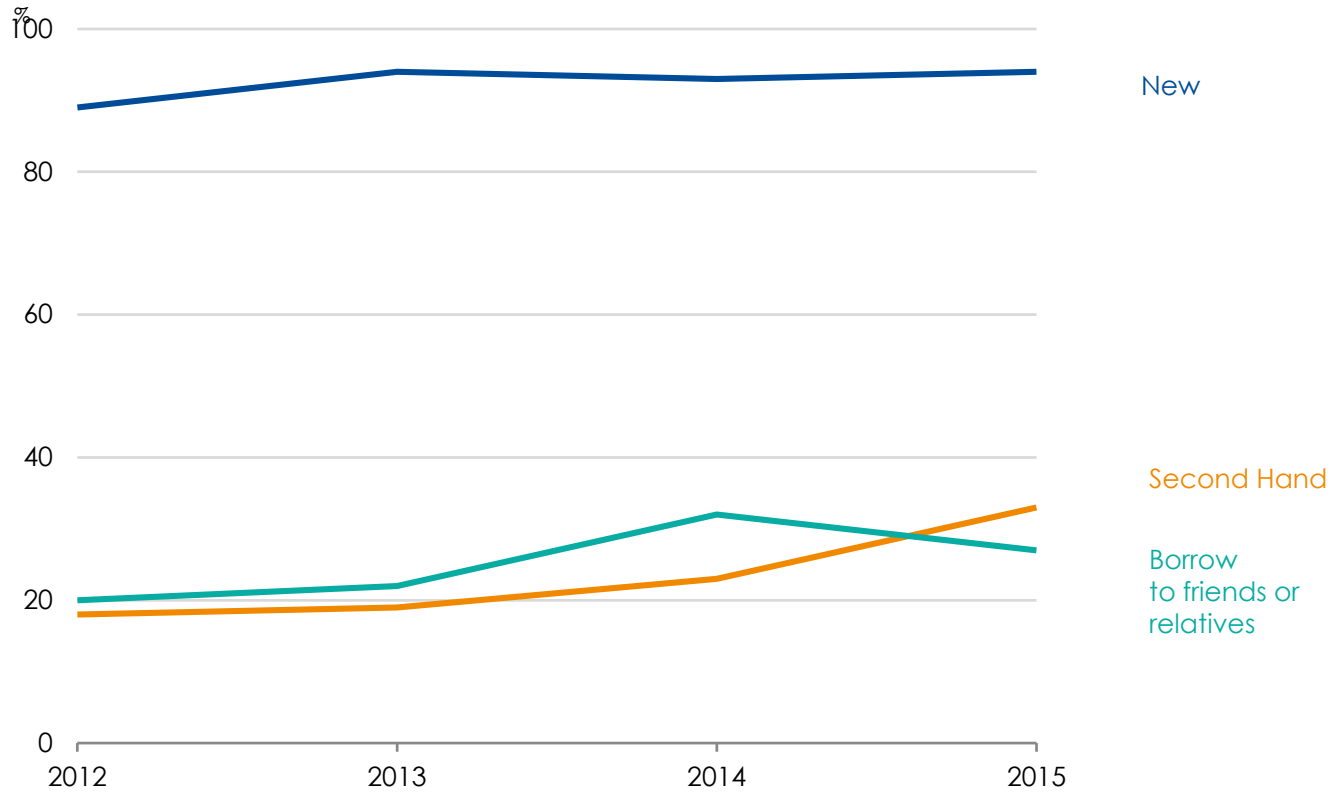


Expenses in school textbooks per student, 2015/2016 school year



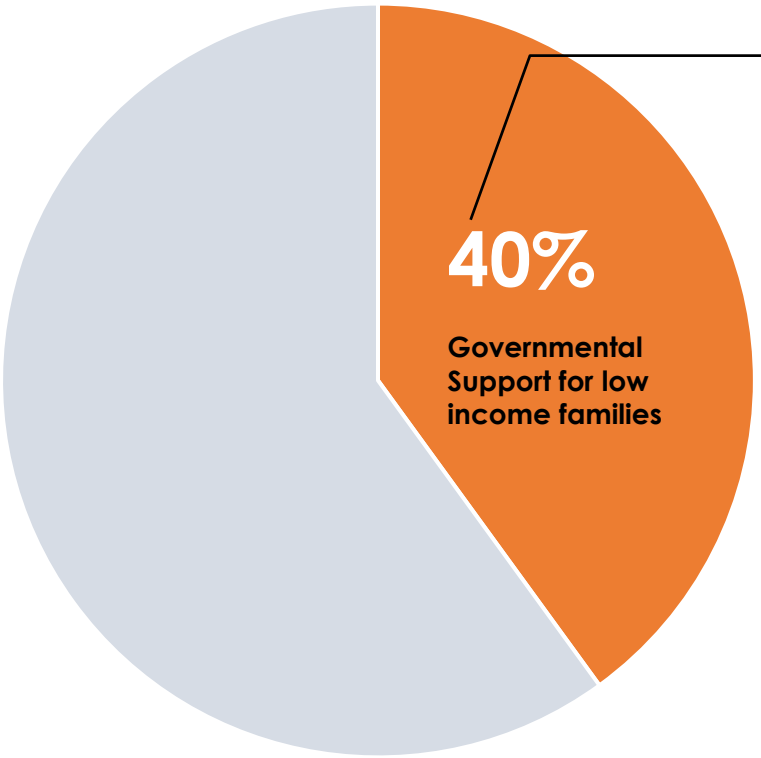
*Average cost of school manuals

Purchase of schoolbooks, 2012-2015



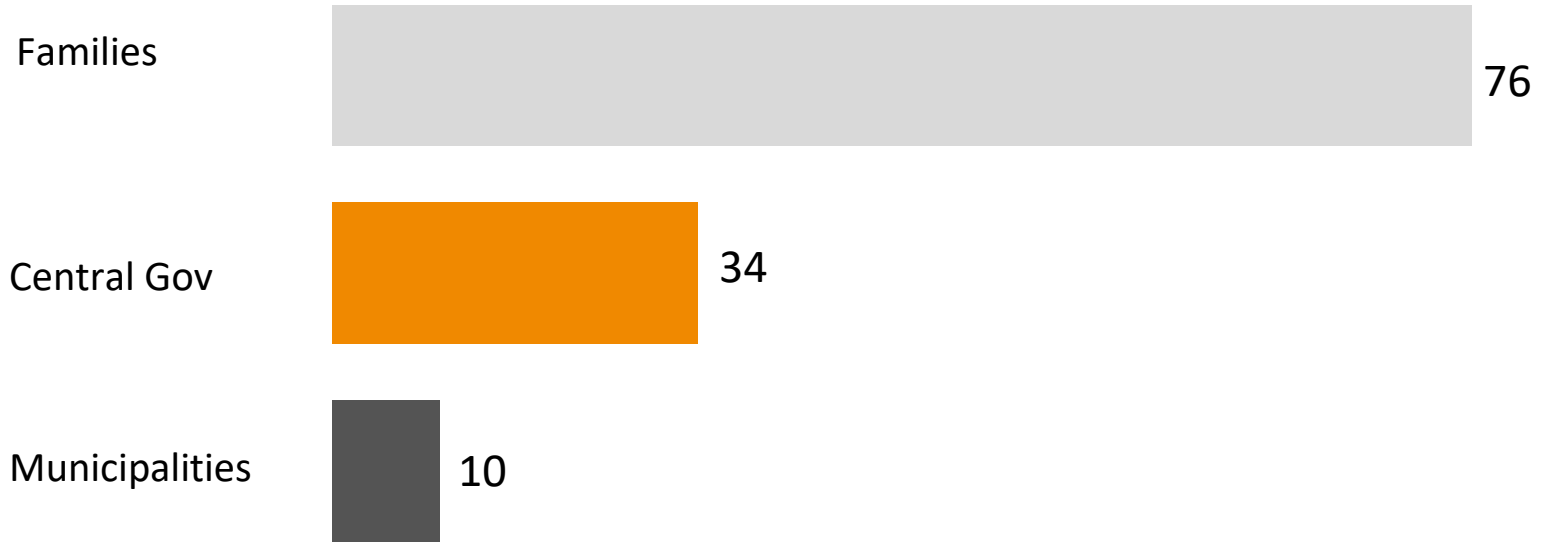
4 for every 10 students

Primary and Secondary schools received ASE support in the period 2014/2015

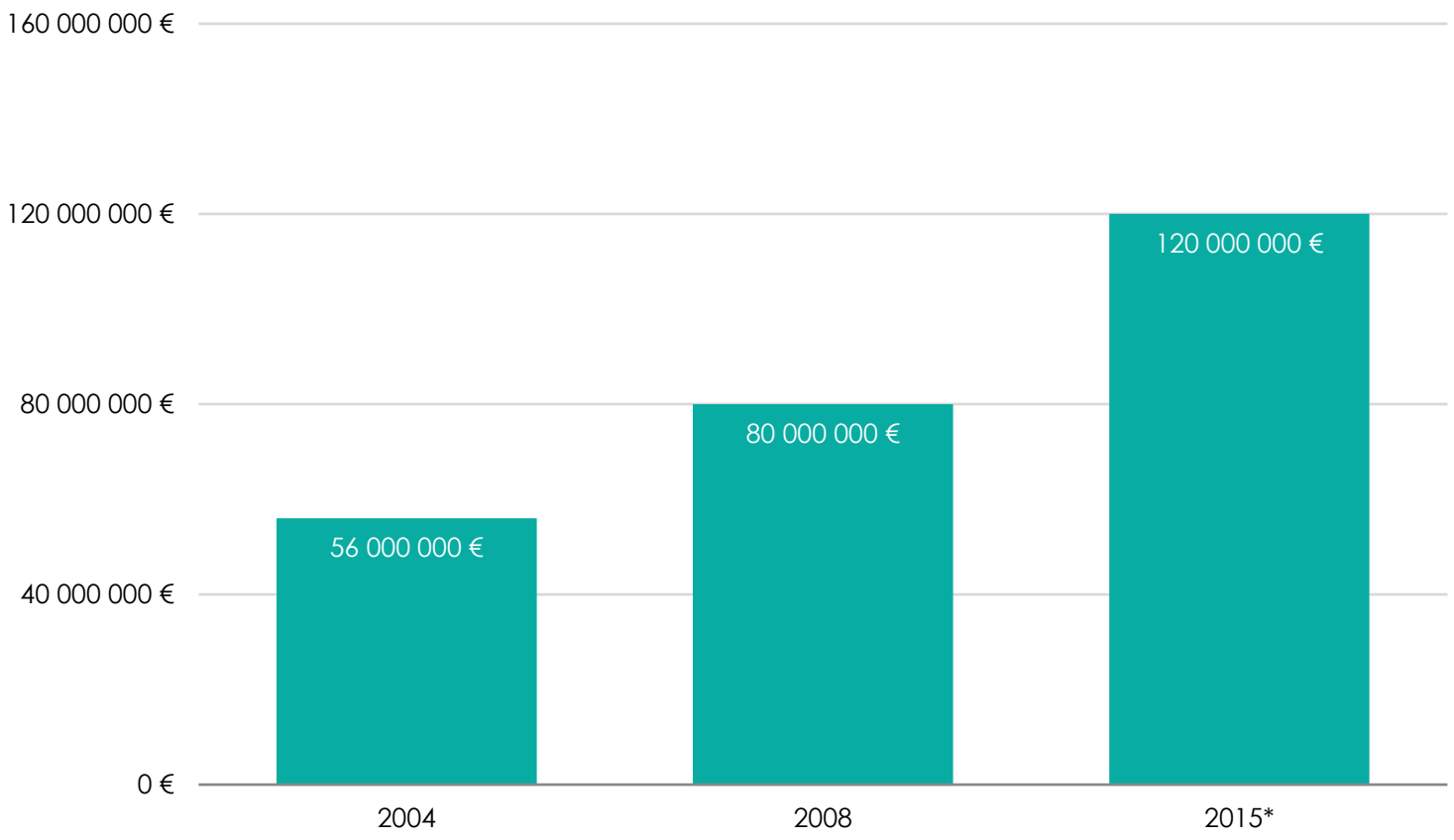


Families Support 63% of the cost of the textbooks

Millions of euros

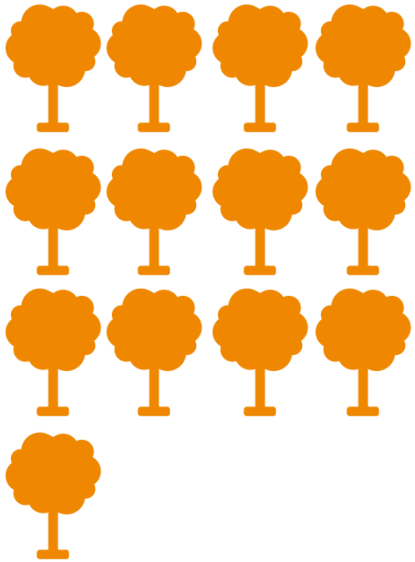


Textbooks Business Volume



Number of trees being felled and CO2 emissions with paper textbooks per year

65.000
Tree per year



=

200.000
Tons of


1 : 5000

3rd STEP (Pedagogical Revolution)

New school model

Digital school manual tools and functionalities

Asterisk → functionality to mark relevant passages in text

Snap Sumary → functionality that brings together all the highlighted passages in an area where they can later be managed

Google Docs → Document embedding functionality

Embedded application for synchronous message exchange between teachers and students

Sharing of excerpts highlighted with pairs

Features that allow you to apply text without losing quality

Following → Search system focused on the number of occurrences per page

Read-aloud text → once synthesized it reads the desired text

Follow colleagues and teachers in social network - Facebook e Twitter

Study guides reviews and exercises / tests (quiz)

Built-in Chat and E-mail Functionality

Groups of collaborative study

Flash Cards/Study Cards

Search system focused on the number of occurrences per page

Dual book view → the user can choose to open two books simultaneously, side-by-side so he can compare tickets

3rd STEP
(Pedagogical Revolution)

New school model

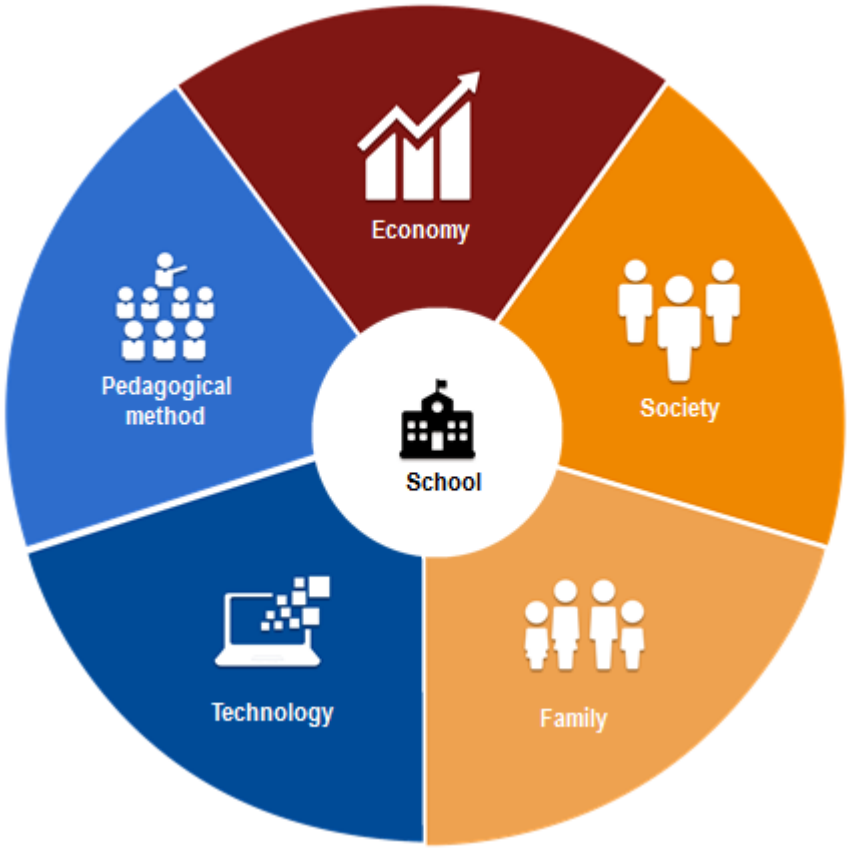
Results to be achieved beyond knowledge	
New capacities development (to start at first grade and develop in the folllowing grades)	
Personal	Interpersonal
Critical thinking	Teamwork
Analytical capability	Leadership
Problem solving	Cooperation
Creativity	Empathy
Entrepeneurship	Adaptability
Communication skills	Coordenation
Responsability	Comunication
Cooperation	Constructive feedback

3rd STEP
(Pedagogical Revolution)

New school model

The ambition and the goals

The school will have to be in continuous improvement to follow the real world evolution and to prepare the students for it.



3rd STEP
(Pedagogical Revolution)

New school model

1 Technology

- Interactive board
- Desktop
- Tablets
- Wifi and internet access
- Technical support

2 Pedagogy

- Class management platform
- Learning management System
- E.books

3 Learning accelerators

- Projects connected to the economy and real life

4 Trainning and Coaching

- Certified trainning
  - School publishers
  - Teaching trainning centers

5 New school model

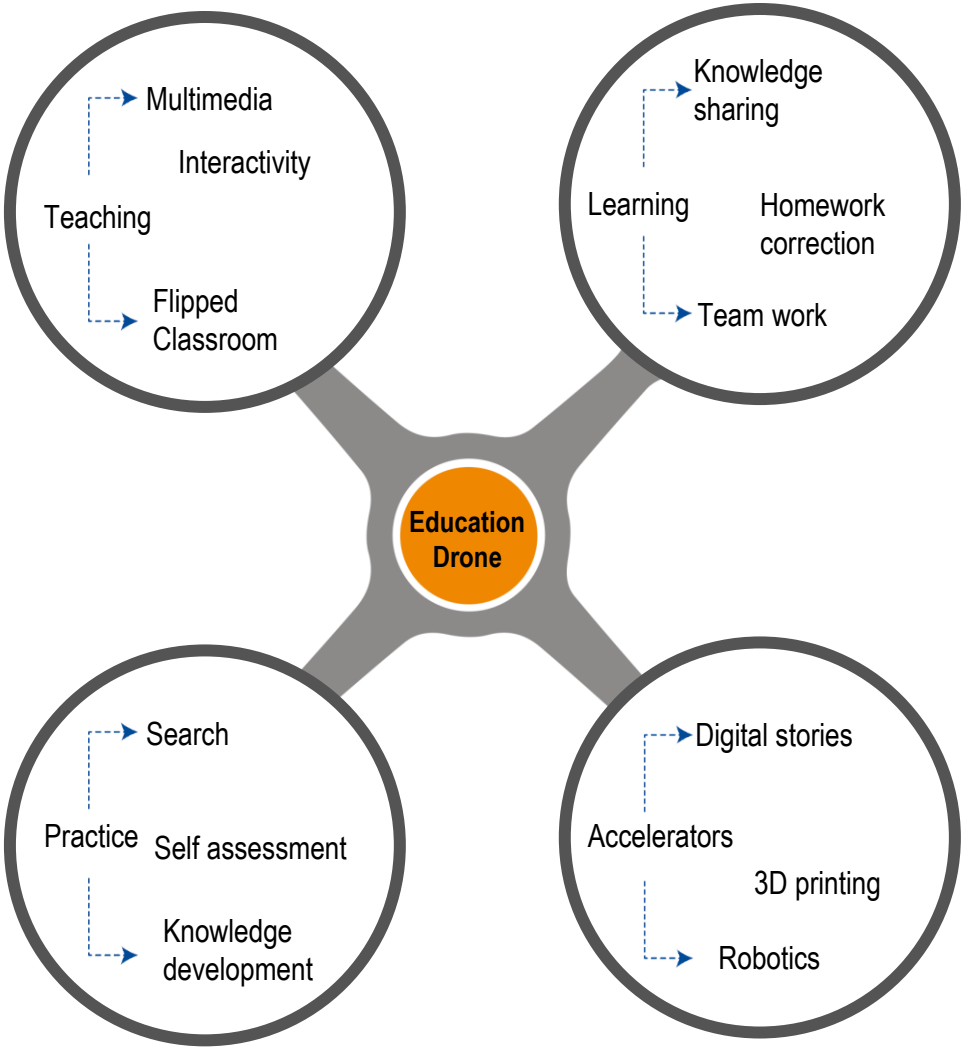
- Teaching standards
- New learning outcomes

3rd STEP (Pedagogical Revolution)

New school model

Interactive classroom

Teachers follows the student work



Self study

Linking education to real life

3rd STEP
(Pedagogical Revolution)

New school model

Learning accelerator Kits
Read, write and draw
Environment, physics and chemistry
Energy solutions simulation
Electronics and automation
Robotics
3D Printing
Multimedia production
Maths and Science Games
New farming pratice
Digital contents production

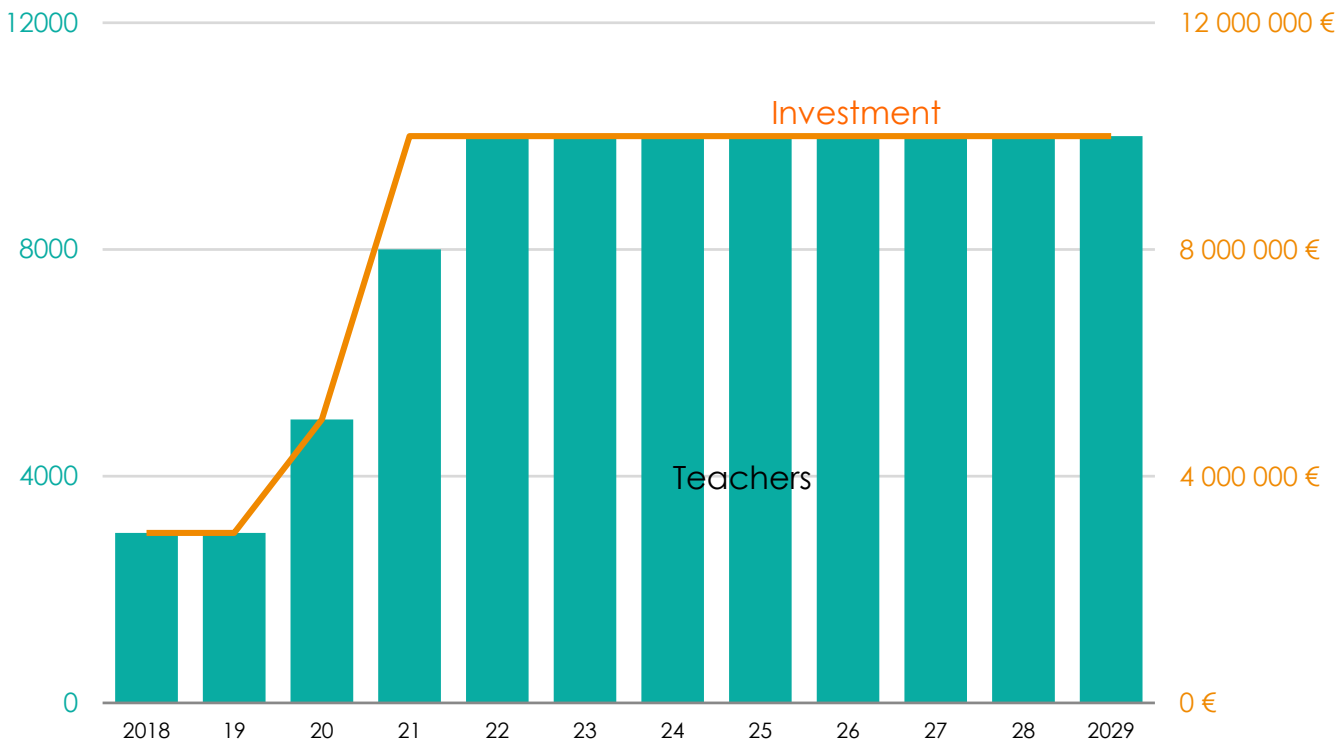
10 years of deep change in our school, for a job that we will have to continue to do for a lifetime.

The school has to follow the evolution of society and economy every passing day.

Continuous Investment

Next ten years…

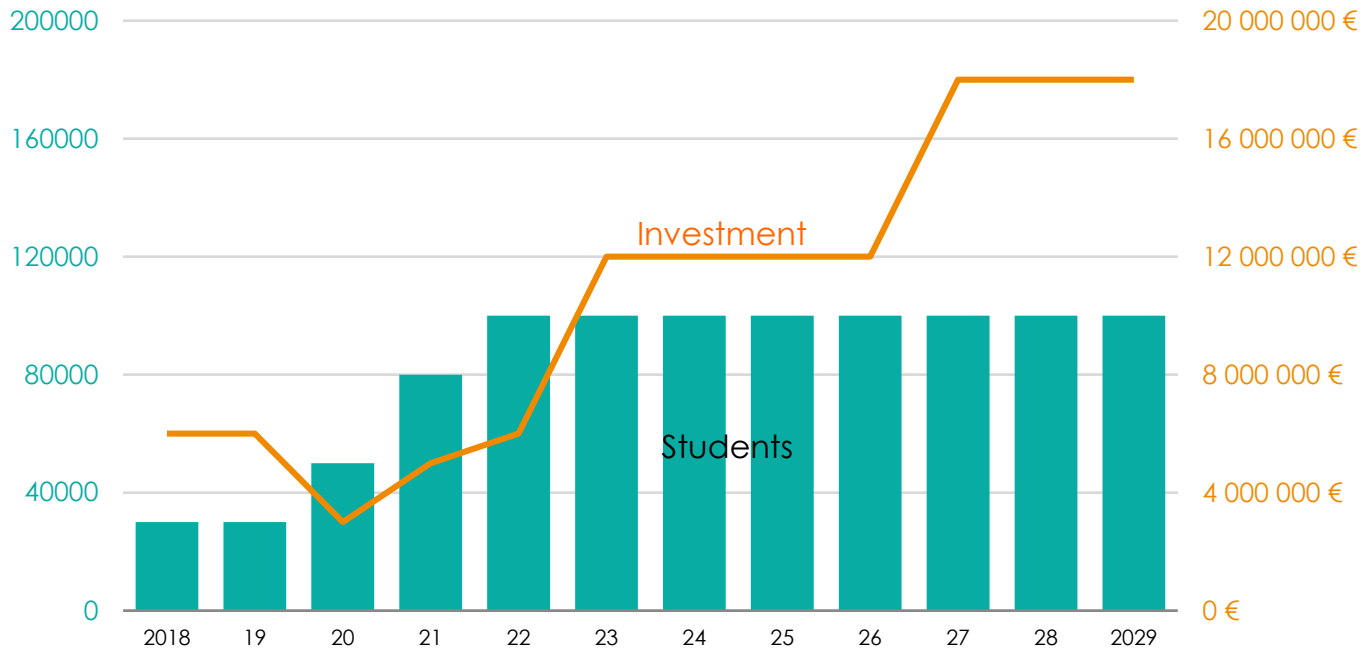
Teachers: investment in training, 2018-2029



Continuous Investment

Next ten years…

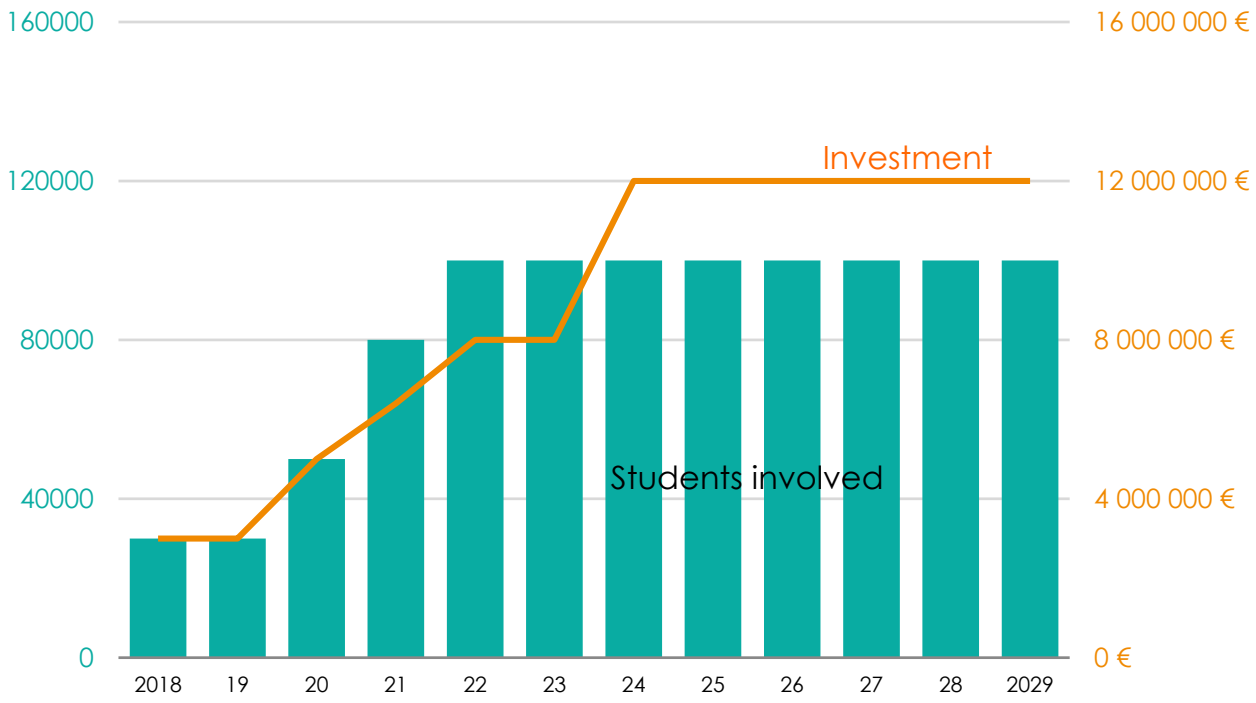
Students: Investment in Tablets, 2018-2029



Continuous Investment

Next ten years…

Schools: investment in networks and kits, 2018-2029




Sustainable
Education
Meeting
21st-22nd September, NYC, USA
4